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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
SHINICHIRO TAKASHIMA, ET AL. : EXAMINER: THAKUR, VIREN A  
SERIAL NO: 10/581,200 :  
FILED: JUNE 1, 2006 : GROUP ART UNIT: 1794  
FOR: PACKAGE DRINK :

DECLARATION UNDER 37 C.F.R. §1.132

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Now comes Hideaki Ueoka who deposes and declares that:

1. I am a graduate of Kobe University and received my masters degree in the year 1991, majoring in chemical engineering.

2. Since 1991, I have been employed by the Kao Corporation, the assignee of the above-identified application. In 1991, I was a researcher involved in the Processing Development Research Laboratories with a responsibility of processing for oleo chemicals. Since 2004, I have been involved in Processing Development Research Laboratories with a responsibility for development of processing for healthcare food products.

3. The following experiments were conducted by me or under my direct supervision and control.

As evidence of an enhancement in caffeine removal by using the combination of activated carbon and acid clay or activated clay, and the use of a mixture of 91-97 wt. % organic solvent and water, caffeine removal and coloration of a green tea extract was measured comparing the

combination of adsorbents of activated carbon and acid clay with activated carbon alone, acid clay alone, and a mixture of less than 91% of organic solvent in water.

	Example 1 in the present application	Additional comparative Example 1	Additional comparative Example 2	Additional comparative Example 3	Additional comparative Example 4
Solid green tea extract(g) (POLYPHENON HG product of Tokyo Food Techno CO., Ltd)	200	200	200	200	200
Ethanol (g)	760	560	760	760	760
Water(g)	40	240	40	40	40
Activated Carbon (g) (KURARAYCOAL GLC product of Kuraray Chemical K.K.)	20	20	0	0	20
Acid Clay (g) (MIZUKA ACE#600, product of Mizusawa Chemical Industries, Ltd.	100	100	100	120	0
Organic solvent / Water (weight ratio)	95/5	70/30	95/5	95/5	95/5
Non-polymer catechins / caffeine after treatment (weight ratio)	33.0	35.9	16.4	20.4	18.5
Gallates percentage of non-polymer catechins after treatment (wt %)	51.0	52.4	52.4	52.7	49.6
Gallocatechins percentage of non-polymer catechins after treatment (wt %)	74.9	78.8	77.2	77.2	77.1
Concentration of non-polymer catechins in solid after treatment (wt %)	66	49	61	63	64
Absorbance (-)	0.038	0.058	0.098	0.099	0.018

Assessment of purified products	Caffeine content was lowered, color was good, and stability was visually good.	Color deteriorated and concentration of non-polymer catechins in solid after treatment was lowered.	Caffeine content was not lowered and color deteriorated.	Caffeine content was not lowered.

Comparative examples 2, 3 and 4 demonstrate the degree of caffeine removal when using only one of activated carbon or acid clay. In each case, **a reduction in the caffeine content was not detected** using either adsorbent alone. Further, using a mixture of only 70 wt. % ethanol in water and a combination of activated carbon and acid clay, even though the caffeine content was lowered, a reduction in the non-polymer catechins in the solids after treatment was also observed.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is believed to be true and correct. 28 USC 1746(1)

Hideaki Ueno

April 16, 2010  
Date